REMARKS

Status of the Claims

In accordance with the foregoing, claims 30, 35 and 36 are pending and under consideration. Respectfully, the rejection is traversed.

Entry of Response Under 37 C.F.R. §1.116

Applicants request entry of this Rule 116 Response and Request for Reconsideration because the amendments were not earlier presented because the Applicants believed in good faith that the cited prior art did not disclose the present invention as previously claimed.

The Manual of Patent Examining Procedures sets forth in §714.12 that "[a]ny amendment that would place the case either in condition for allowance or in better form for appeal may be entered." Moreover, §714.13 sets forth that "[t]he Proposed Amendment should be given sufficient consideration to determine whether the claims are in condition for allowance and/or whether the issues on appeal are simplified." The Manual of Patent Examining Procedures further articulates that the reason for any non-entry should be explained expressly in the Advisory Action.

Claim Rejections under 35 USC § 112

Claims 30 and 35-36 were rejected under 35 USC 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention. It is respectfully submitted that the amended recitation "a load is unbalanced among said respective processors included in said parallel computer system" interrelates the features of claims 30, 35, and 36 clearly and overcomes the rejection.

Claim Rejections under 35 USC § 101

Claims 30 and 35-36 were rejected under 35 U.S.C. §101 as being directed to non-statutory subject matter.

The Examiner states that the claims merely disclose steps/components for calculating an efficiency parameter without disclosing a practical/physical application. Independent claim 30 recites "a display device displaying the calculated parallel efficiency" and claims 35-36 recite "outputting the calculated parallel efficiency to a display device". The display device is a useful, tangible and concrete result.

MPEP §2106 states that subject matter outside patentable statutory subject matter is limited to abstract ideas, laws of nature, and natural phenomena, where the claimed subject matter is not a *practical application or use* of an idea, a law of nature or a natural phenomena.

Thus, a claim to an "abstract idea" is non-statutory when it does not represent a practical application of the idea. A claim is limited to a practical application when the method, as claimed, produces a concrete, tangible and useful result (see, MPEP §2106).

As recited in claim 30 "a display device displaying the calculated parallel efficiency" allows the calculated parallel efficiency to be displayed to a user of a parallel computer system. As recited in claims 35-36, "outputting the calculated parallel efficiency to a display device" also allows the calculated parallel efficiency to be displayed to a user of a parallel computer sytem.

The apparatus, method, and computer readable storage medium of claims 30 and 35-36, respectively, recite a useful, tangible and concrete result and, accordingly, overcome the 35 USC 101 rejection. Thus, it is respectfully submitted that because independent claims 30 and 35-36 satisfy the requirements of 35 USC §101, withdrawal of the rejection is requested.

Claim Rejections under 35 USC § 103

Claim 30 recites:

> a first calculator calculating a load balance contribution ratio according to
>
> $$R_b(p) \equiv \frac{\sum_{i=1}^{p} \tau_i(p)}{\tau(p) \cdot p}$$
>
> by using the measured processing time $\gamma_i(p)$, said processing time $\chi_{i,j}(p)$ and a number p of processors of said parallel computer system, wherein
>
> $$\tau_i(p) \equiv \gamma_i(p) + \sum_{j=1}^{j_{Others}} \chi_{i,j}(p)$$, and
>
> $$\tau(p) \equiv \underset{i=1}{\overset{p}{Max}}(\tau_i(p))$$;
>
> a second calculator calculating a virtual parallelization ratio representing a ratio, with respect to time, of a portion processed in parallel by said respective processors executed in said parallel computer system according to

$$R_p(p) \equiv \frac{\sum_{i=1}^{p} \gamma_i(p)}{\tau(1)}$$

by using the measured processing time $\gamma_i(p)$, said processing time $\chi_{i,j}(p)$ and a number p of processors of said parallel computer system, wherein $\tau(1)$ is substantially equivalent to a processing time in case where only one processor executes said specific processing;

a third calculator calculating a parallel performance impediment factor contribution ratio according to

$$R_j(p) \equiv \frac{\sum_{i=1}^{p} \chi_{i,j}(p)}{\sum_{i=1}^{p} \tau_i(p)}$$

by using the measured processing time $\gamma_i(p)$, said processing time $\chi_{i,j}(p)$ and a number p of processors of said parallel computer system; and

a fourth calculator calculating a parallel efficiency by using said load balance contribution ratio, said virtual parallelization ratio, and said parallel performance impediment factor contribution ratio;

a display device displaying the calculated parallel efficiency,

wherein a load is unbalanced among said respective processors included in said parallel computer system.

The Applicant Admitted Prior Art (AAPA) relates to the performance evaluation of a parallel processing **by using** the parallel efficiency. On page 4 of the Office action, the Examiner states that AAPA fails to disclose a load balance is not kept among said respective processors included in said parallel computer system. The Examiner cites Tanaka for this point. Tanaka relates to a multiprocessor information handling system that can absorb a load imbalance without increasing the size of a data buffer.

Both the AAPA and Tanaka fail to teach or suggest calculating a load balance contribution ratio, calculating a virtual parallelization ratio, calculating a parallel performance impediment factor contribution ratio, and calculating a parallel efficiency in the manner recited in claim 30.

Conclusion

If there are any formal matters remaining after this response, the Examiner is requested to telephone the undersigned to attend to these matters.

If there are any additional fees associated with filing of this Amendment, please charge the same to our Deposit Account No. 19-3935.

Respectfully submitted,

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